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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,127	04/29/2002	Kari Pajukoski	4925-176PUS	5550
7590	06/28/2005		EXAMINER	
Michael C Stuart Cohen Pontani Lieberman & Pavane 551 Fifth Avenue Suite 1210 New York, NY 10176			AHN, SAM K	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,127	PAJUKOSKI ET AL.	
	Examiner	Art Unit	
	Sam K. Ahn	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on pre-amdt, 08/12/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-12, 14-21, 30, 31, 37, 40, 41, 43, 44, 46-50 and 52-55 is/are rejected.
- 7) ☒ Claim(s) 4-8, 13, 22-29, 32-36, 38, 39, 42, 45 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>120501</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 4 and 10 are objected to because of the following informalities:

In claim 4, line 2, please define "MVU" in the claim.

In claim 10, line 11, delete "base" and insert "based".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 14-16,40,41,46-48 and 52-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14,40 and 41 recite the limitation "said subtracting means" in lines 3-4, 2 and 2, respectively. There is insufficient antecedent basis for this limitation in the claim. And further, it is unclear and indefinite from the claim of how the elements of the averaging means, subtracting means and estimation means are configured.

Claims 15-16,46-48 and 52-54 directly or indirectly depend on claim 14.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,2,9,10,12,17-20,30,31,37,43,44,49,50 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al., USP 6,377,607 B1 (Ling) in view of Narvinger et al, USP 6,381,229 B1 (Narvinger).

Regarding claims 1,2,10 and 19, Ling teaches a method and an apparatus for performing an interference estimation in a spread spectrum system comprising: receiving means (42,44 in Fig.2)for receiving a spread spectrum signal; sampling means (50,52,54,56,58,60,62,64 and 66 in Fig.2 and 212,214 in Fig.9) for generating a despread sample signal by averaging over a predetermined code period over which codes are orthogonal (PN codes); and estimation means (216 in Fig.9) for obtaining a variance estimate based on said despread sample signal (note col.16, line 53 - col.17, line 12). However, Ling does not explicitly teach the spread spectrum system using a plurality of spreading codes with different code lengths.

Narvinger teaches a spread spectrum system implementation of different spreading factors to support variable transmission rates (note col.9, lines 19-27). Therefore, it would have been obvious to one skilled in the art at the time of the invention to transmit signals in the spread spectrum system of Ling implementing different spreading factor for the purpose of supporting a desired or required transmission rates, as taught by Narvinger. Thus, by implementing as such, the system would average over a predetermined code period (note col.8, lines 14-15).

Regarding claim 12 and 37, Ling in view of Narvinger teach all subject matter claimed, as applied to claim 10. Ling further teaches wherein said sampling means (50,52,54,56,58,60,62,64 and 66 in Fig.2 and 212,214 in Fig.9) comprises an integrating means (or accumulator, 62) integrating a signal, obtained by removing a spreading code from said received spread spectrum signal, over said predetermined code period (note col.8, lines 13-19).

Regarding claims 17,43 and 44, Ling in view of Narvinger teach all subject matter claimed, as applied to claim 10. Ling further teaches wherein said interference estimation apparatus is an SIR estimator (note col.17, lines 20-31) used for performing power control in a spread spectrum transceiver (note abstract).

Regarding claims 9,18,20,30,31,49,50 and 55, Ling in view of Narvinger teach all subject matter claimed, as applied to claim 1,10,17 or 19. Narvinger further teaches wherein said spread spectrum system is a WCDMA system (note col.1, line 30).

4. Claims 3,11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al., USP 6,377,607 B1 (Ling) in view of Narvinger et al, USP 6,381,229 B1 (Narvinger) and Blanc et al. USP 6,661,777 B1 (Blanc).

Regarding claims 3,11 and 21, Ling in view of Narvinger teach all subject matter claimed, as applied to claim 1 or 10. Although Narvinger teaches signals having different spreading factors, Ling in view of Narvinger do not explicitly teach wherein said predetermined code period corresponds to the length of the shortest spreading code of said plurality of spreading codes.

Blanc teaches a spread spectrum system wherein minimum spreading factor is related to a maximum transmission rate (note col.8, lines 54-55). Therefore, it would have been obvious to one skilled in the art at the time of the invention to assign said predetermined code period corresponds to the length of the shortest spreading code of said plurality of spreading codes for the purpose of implementing the maximum transmission rate, as taught by Blanc.

Allowable Subject Matter

5. Claims 4-8,13,22-29,32-36,38,39,42,45 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:

Present application discloses a method and an apparatus of an interference estimation in a spread spectrum system comprising receiving means, sampling means and estimation means wherein sampling means averages despread sample signal and wherein estimation means compute variance estimation. Prior arts, Ling and Navinger teach all subject matter claimed. However, prior art do

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not teach the variance estimation using MVU calculated using the equation as recited in claim 4. And further, prior art do not teach the configuration of the estimation means comprising a first integration means, second integration means and subtracting means as recited and illustrated in Fig.3.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ling USP 5,297,161 teaches spread spectrum system implementing variables of variance, expectation and power in an equation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
6/20/05



6/24/05
OFFICE

TEMESGHEN GHEBREINSAE
PRIMARY EXAMINER